

IN THE CLAIMS:

Please amend claims 6, 9, and 12-14 as follows:

1. (Previously Presented) A head slider having an air inlet end and an air outlet end, comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between the transducer and a rearmost portion of the head slider.

2. (Original) A head slider according to claim 1, wherein said cavity is approximated by a curved surface that is represented by:

$$z = f(x) \cdot g(y)$$

where z represents the depth of the cavity, x the position thereof in the longitudinal direction of the head slider, y the position thereof in the transverse direction of the head slider, $f(x) = a_m x^m + a_{m-1} x^{m-1} + \dots + a_1 x + a_0$, $g(y) = b_n y^n + b_{n-1} y^{n-1} + \dots + b_1 y + b_0$, and m and n are an integer of 2 or greater.

3. (Original) A head slider according to claim 2, wherein said cavity is approximated by a curved surface which is represented by an equation which is similar to said equation except that at least one of $f(x)$ and $g(y)$ is replaced with a sine function.

4. (Previously Presented) A head slider according to claim 1, wherein an amount of material of the head slider that would completely fill said cavity corresponds to a portion of the head slider which would project from the disk-facing surface if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer.

5. (Previously Presented) A head slider according to claim 1, wherein an amount of material of the head slider that would completely fill said cavity is corresponds to a portion of the head slider which would float less than said electromagnetic transducer if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer while said head slider is normally floating.

6. (Currently Amended) A head slider having an air inlet end and an air outlet end, comprising:

a front rail disposed on a disk-facing surface adjacent to the air inlet end and having a flat air bearing surface for generating a floating force when the disk rotates;

a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end and each having respective flat air bearing surfaces for generating a floating force when the disk rotates;

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails;

said head slider having a cavity on the air outlet end near said electromagnetic transducer, a portion of said cavity being exposed along a rear face of the head slider on the air outlet end.

7. (Original) A method of manufacturing a head slider having an electromagnetic transducer near an air outlet end, comprising the steps of:

applying a predetermined voltage to said electromagnetic transducer; and

polishing off a portion of the head slider which projects from a disk-facing surface when a predetermined voltage is applied to said electromagnetic transducer.

8. (Original) A method of manufacturing a head slider having an electromagnetic transducer near an air outlet end, comprising the steps of:

rotating a polishing member at a predetermined rotational speed;

causing the head slider to flow with an airflow which is generated when the polishing member is rotated;

applying a predetermined voltage to said electromagnetic transducer; and

polishing off a portion of the head slider which projects from a disk-facing surface and a portion of the head slider which floats less than said electromagnetic transducer when said predetermined voltage is applied to said electromagnetic transducer.

9. (Currently Amended) A disk drive comprising:

a housing;

an actuator arm rotatably mounted in said ~~housing~~ housing;

a suspension fixed at a base end portion thereof to a front end portion of said actuator arm;

a head slider mounted on a front end portion of said suspension, said head slider having an air inlet end and an air outlet end;

said head slider comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between said transducer and a rearmost portion of said head slider.

10. (Previously Presented) A disk drive according to claim 9, wherein said cavity is approximated by a curved surface that is represented by:

$$z = f(x) \cdot g(y)$$

where z represents the depth of the cavity, x the position thereof in the longitudinal direction of the head slider, y the position thereof in the transverse direction of the head slider, $f(x) = a_m x^m + a_{m-1} x^{m-1} + \dots + a_1 x + a_0$, $g(y) = b_n y^n + b_{n-1} y^{n-1} + \dots + b_1 y + b_0$, and m and n are an integer of 2 or greater.

11. (Previously Presented) A disk drive according to claim 10, wherein said cavity is approximated by a curved surface which is represented by an equation which is similar to said equation except that at least one of $f(x)$ and $g(y)$ is replaced with a sine function.

12. (Currently Amended) A disk drive according to claim 9, wherein an amount of material of said head slider that would completely fill said cavity is formed by removing corresponds to a portion of the head slider which projects would project from the

disk-facing surface if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer.

13. (Currently Amended) A disk drive according to claim 9, wherein an amount of material of said head slider that would completely fill said cavity is formed by removing corresponds to a portion of the head slider which floats would float less than said electromagnetic transducer if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer while said head slider is normally floating.

14. (Currently Amended) A disk drive comprising:

- a housing;
- an actuator arm rotatably mounted in said housing;
- a suspension fixed at a base end portion thereof to a front end portion of said actuator arm;
- a head slider mounted on a front end portion of said suspension, said head slider having an air inlet end and an air outlet end;
- said head slider comprising:
 - a front rail disposed on a disk-facing surface adjacent to the air inlet end and having a flat air bearing surface for generating a floating force when the disk rotates;

a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end and each having respective flat air bearing surfaces for generating a floating force when the disk rotates;

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails;

said head slider having a cavity on the air outlet end near said electromagnetic transducer, a portion of said cavity being exposed along a rear face of the head slider on said air outlet end.